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#### Program

The NEMES program will be held at 7 PM on Thursday, Feb.1, 2018, in the Jackson Room of the Charles River Museum of Industry and Innovation. The main entrance to the Museum will be blocked by construction, so we will have to enter either through the back entrance (do not park in the Mill parking lot), or through the door to the Internet Center.

The meeting agenda will be:

The traditional January Poster Session (postponed from January due to bad weather), with Members exhibiting interesting projects, recent acquisition, questions for the membership, etc. Members might want to use this as a lead in to their exhibit for the annual NEMES Engine Show.

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# **Club Business**

Rich Baker

**Dues.** The 2018 dues are due. Please bring your \$25 check to the February meeting or you can try out our credit card system. Or mail me a check to Rich Baker, NEMES, 288 Middle Street, West Newbury, MA 01985.

**NEMES Show.** The 22<sup>nd</sup> Annual NEMES Model Engineering Show at the Charles River Museum of Industry on February 17, 2018 from 10-4 PM. Once again, we will be selling NEMES shirts and collecting dues at the Show. Please bring your exhibits and join us at the NEMES Show.





President's Corner Dan Erying

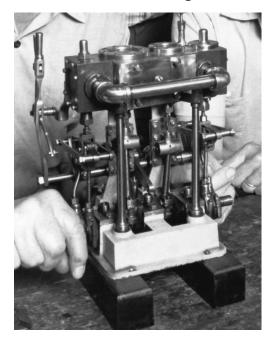
The Cabin Fever show came off without a hitch. Hopefully we can round up more travelers next year.

Our own show is coming up in a few weeks, February 17<sup>th</sup>. You'll see some changes at the Museum, work just commenced on making the CRMII main entrance ADA compliant. On the date of our February meeting on the 1<sup>st</sup>, the work will still be ongoing and we will likely need to enter the Museum through the Public Internet Center entrance, on the left a few yards before you reach the CRMII entrance. The Director expects the entrance work to be complete before our model show.

You will notice a couple new exhibits at the Museum. First, in a case under the Wentworth Institute's wooden model of a Walschaerts locomotive valve gear assembly, four steam engines from the archives are on display – as described below:

#### Engine #1 –

#### Model Steam Launch Engine



This is a model of a compound steam engine, meant (in the full-size world) to power a steam launch. It includes a reversing capability, as most boat engines do. It was restored in the 80's or 90's by Walter Bush and other Museum volunteers.

#### Engine #2 –

#### Stanley Steamer Engine



We have a couple of Stanley's. One of our volunteers spent some time at the Transportation Museum and I expect he will be eventually looking into this one, either just to identify it or maybe to get it running

#### Engine #3 –

#### **Lubricating Pump**



I think this is a lubrication pump. There is no power takeoff pulley, the crankshaft does nothing but spin the flywheel. The shaft coming out the top of the steam cylinder has a link to the shaft to the right. That shaft is a plunger into the small cylinder below that must contain a small piston for pumping oil or water. There must also be a check valve on the pump input side so that liquid is sucked into the cylinder from the input side and then pushed out the output side.

So this thing was probably used to provide lubrication under pressure to some sort of spinning axle riding in a bearing.

Engine #4 – Triple Expansion Steam Launch Engine



Like the engine at the right end of the display, this is also a compound steam engine, intended to power a boat. It could be a model, but it looks kind of industrial, so I think it might be a real full size engine for propelling a small boat.

This one has three steam cylinders, so it is a triple expansion design. Steam is supplied first to the left hand cylinder and then to the middle and right hand cylinders in succession. You will also see that each cylinder's steam chest has a reversing lever, used to reverse the direction of the drive shaft.

There a couple mysteries. There is no flywheel and the power takeoff point is not immediately obvious. More study needed.

Next, you may remember Robert Megerdichian, who spoke at one of our meetings at the Waltham Library about the metal models made by his father Abraham. He was a machinist for 30 years at the GE Lynn Works and used his 30 minute lunch hour every day to make toys for his five kids. He eventually built over 300 of these, of which a select 25 are on display in a plexiglass case to the left of the Director's Office.

The picture below shows my favorite – a complete miniature Machinist's Tool Box, including dozens of tiny, intricate, working tools. Even the Machinist's Handbook is included.



We do not have very many new events on the website, just the NEMES engine show. Surely there must be more. Are people not giving the events to us, or are they just not aware the Gazette exists? If anybody knows of other upcoming events, be sure they get on the website.

We still need more articles. I plan to follow up on my V-belt article with one on flat belts in the near future, but what about all you machinists out there you must have some interesting projects to write about.



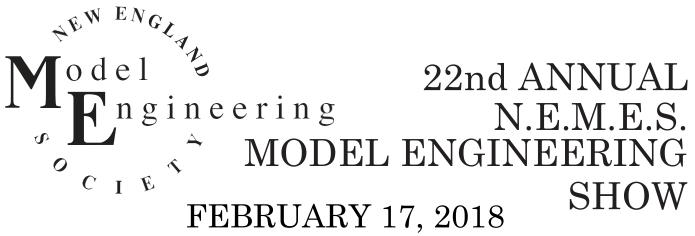


From the Editor's Desk Bob Timmerman

This will be a small Gazette, partly because your editor is recuperating from a total knee replacement on his right knee (his left knee was replaced last February). I have been spending a good deal of time doing Physical Therapy, but I happy to report that 6 weeks after surgery, I am walking without a cane, and just using it to help with climbing steps. I have been cleared to drive, so I will be at NEMES meetings from now on.

#### **Upcoming Events**

Annual NEMES Model Engineering Show Charles River Museum of Industry and Innovation Waltham, MA 10 AM to 4 PM



## 10:00 AM TO 4:00 PM

# CHARLES RIVER MUSEUM OF INDUSTRY & INNOVATION WALTHAM, MA

#### SEE OPERATING SCALE:

- STEAM ENGINES
- GASOLINE ENGINES
- AIRCRAFT ENGINES
- STIRLING CYCLE ENGINES
- CLOCKS
- MACHINIST'S TOOLS AND FIXTURES
- LOCOMOTIVES
- TRACTION ENGINES
- MODEL BOATS STEAM AND GAS

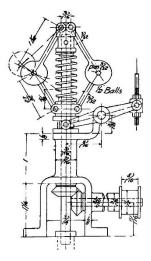
#### AND MEET THE CRAFTSMEN WHO BUILT THEM

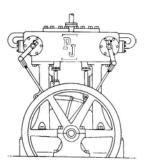
#### EXHIBITORS SETUP STARTS AT 8:00 AM COMPRESSED AIR FOR RUNNING MODELS GAS ENGINES ALLOWED NON-MEMBER EXHIBITORS WELCOME

GENERAL ADMISSION FOR SHOW AND MUSEUM

ADULTS \$10	0.00
SENIORS, STUDENTS (w/ID), ACTIVE MILITAR	Υ,
and CHILDREN 5 – 17 WITH ADULTS, \$5.	00
EXHIBITORS and CHILDREN UNDER 5 FR	EΕ







#### **Directions:**

Take Rte. 128 to Rte. 20. Go East on Rte. 20 to Central Square, about 2 miles. Right on Moody Street. Cross the river, left on Pine Street to municipal parking lot on left.

Short walk over the footbridge to the museum.

For additional information call the Museum at 781-893-5410 or go to <u>www.neme-s.org</u>